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Brief 66-10586

NASA TECH BRIEF

Gas Chromatographic Column Enables Analysis of Propellant Hydrazines

The problem:

To provide a column for use in gas chromatographic analysis of propellant-grade hydrazines. The constituents to be separated include air, water, ammonia, methylamine, dimethylamine, methyl alcohol, hydrazine, methylene dimethylhydrazine, unsymmetrical dimethylhydrazine, monomethylhydrazine, and N-nitrosodimethylamine.

The solution:

A 6-foot × 0.25-inch o.d. (0.035-inch wall) stainless steel column packed with 6-percent by weight of N,N,N′,N′-tetrakis(2-hydroxypropyl)-ethylenediamine (a commercially available liquid) on a polytetrafluoroethylene support. The separations are carried out at a column temperature of 90°C and a helium flow rate of 60 to 70 ml per minute.

Notes:

1. The column has also been found effective for the separation of other amines and alcohols and nitriles.
2. Inquiries concerning this invention may be directed to:

   Technology Utilization Officer
   Manned Spacecraft Center
   Houston, Texas 77058
   Reference: B66-10586

Patent status:

Inquiries about obtaining rights for the commercial use of this invention may be made to NASA, Code GP, Washington, D.C. 20546.

Source: E. A. Welz, Jr.
of North American Aviation, Inc.
under contract to
Manned Spacecraft Center
(MSC-1161)

Category 03